

Forest
Stewardship
Plan
(10-Year Planning Period)

Town of Milford
Mile Slip Town Forest
Mile Slip Road
Milford, NH
+/- 452.25 Acres
February 2014

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Property Owners: Town of Milford c/o Conservation Commission

Phone Number: (603) 249- 0628

Location: Mile Slip Road

Total Acreage: +/- 452.25 Acres

Map/Lot Numbers: 50/9 (181.86ac) & 55/5 (270.39ac)

Deed Book/Page: 7531/2372

Date Prepared: February 2014 (Field Work- August 2013)

General Description of the Property

This 452.25 acre property is located in the Badger Hill area of Milford. This light to moderately populated area is found in the southwestern part of Milford, between the towns of Mason and Brookline with Wilton just to the northwest. The property resides in an area that is predominantly surrounded by large acreages of forestland that are only broken up by house lots, sand pits, streams, and wetland areas. The New Hampshire/Massachusetts state line can be found a few miles to the south. More developed urban areas radiate from the property to the north, south, and east. Over the years, farmland and larger tracts of forestland have been broken up by the increased demand for residential housing including the construction of cul-de-sac's to meet the demand for housing in southern NH.

This property is the largest of five designated Town Forests in Milford and accounts for approximately 46% of the total Town Forest acreage in Milford. Its size and location plays a significant role in maintaining open space in a southern NH town such as Milford. Additionally, this property is one of the largest contiguous properties in the town of Milford. Over the years Milford has taken pride in creating a community with a patchwork of farmland, forestland, and neighborhoods. The historic downtown has been a mainstay in the community since the incorporation of Milford in 1794. Milford has always served as a hub to the surrounding towns and the Souhegan Valley area.

The Mile Slip Town Forest was purchased in 2005 when approximately 75% of the voters, voted to purchase the property. In 2006 the town voted to make the property a Town Forest. The town of Milford realized how this property could fit into maintaining their goals and objectives for long term multiple- use management and acted on the great opportunity presented to them. This property is a valued-addition for the commission's ever growing inventory of town forests, each with their own distinctive qualities. The large size of the property easily lends itself to opportunities, many of which will be discussed further on in this plan.

Looking at the property from a management point of view, it can be split into a western and eastern section due to Mile Slip Road which becomes a Class VI road as it enters the property. The property contains a vast network of stonewalls accompanied by a few old cellar holes found throughout the central section of the property just east of the Class VI road. Another foundation in poorer condition was also found in the southeastern section of the property during the timber cruise. The cellar holes and stonewalls are all that's left of the pioneers who tried their hand at farming and pasturing this property. Since the abandonment of farming and pasturing, the property had been reclaimed by the natural process of succession around the turn of the century. Nearly all of the property shows signs of being extensively harvested since the 1990s and as recent to just before the property was bought by the town.

At the end of Mile Slip Road before it turns into a Class VI Road is a parking area. The immediate area surrounding the parking area appears to either be an old clear cut or an old field. The even-aged growth of the trees appears to be 10-20 years old. Just north of the parking area is an old stone well. This may have also been the site of another homestead. It appears that some of this area is still maintained as open space by periodic brush cutting.

The presence of Mitchell Brook is another added benefit to the property. This stream enters the property from the northwest where a beaver pond can be found. At the time of the field work, the beavers did not appear to be active. A few small intermittent streams and wetlands found in the lower laying areas northeast of the stream act as tributaries to Mitchell Brook which eventually flows to the south off of the property, working its way to Lake Potanipo in Brookline through a network of streams (Spaulding Brook, North Stream, etc). In the northeastern corner of the property (east of Miler Slip Road) is another series of wetlands. The variable topography feeds these wetlands which drain off of the property to the east and also act as a tributary to Spaulding Brook, North Stream, etc. in Brookline.

The property primarily consists of stands of white pine, mixed oak, and mixed hardwoods. Much of the overstory is white pine/ oak or oak/hardwood. Areas of hemlock/ hardwood are found near Mitchell Brook and near the wetland complex in the northeastern section of the property. Some of the major noted species found throughout the property include white pine, red oak, black oak, chestnut oak, red maple, white birch, black birch, yellow birch, hemlock, beech, poplar, white ash, sugar maple, and black gum. All of these major species can be found in the understory as well. Previous extensive harvesting practices have left this property with large continuous stand types.

After conducting an in-depth timber cruise, the forest has been broken down into 6 separate forest stands or forest types, which will be described in more detail later in this plan. The cruise revealed that the forest had areas that were under-stocked as well as areas that are near the desirable stocking for optimal growth rates. Previous harvest activity has reduced the stocking levels down to a point which has left many areas under stocked. Reduced stocking levels were most likely created by openings in the forest canopy which in turn allowed sunlight to penetrate down to the forest floor. When this

occurred, small seedling and sapling sized trees responded over the next few years with rigorous growth. The new growth is the current regeneration as well as the forest of the future.

While conducting the timber cruise, the amount of ice damage throughout the stand was assessed from the 2008 ice storm. This forest like much of the forests in southern NH and northern MA was affected by the ice storm. However the level of ice damage appeared to be minimal with much of the property hardly showing any signs of ice damage. The majority of the ice damage was noticed in pockets where small to large pole size trees with diameters at breast height (dbh) of 2-16". These sized trees whether they are softwood or hardwood, were bent over or broken off from the ice damage. Larger saw log size hardwood trees, dbh 12"+, had their crowns or tree canopies damaged from the weight of the ice. The minimal amount of ice damage has not drastically hindered the overall condition of the forest health.

On more of a landscape level, this property helps contribute to a continuous tract of land that acts as a wildlife corridor for much of the wildlife in southern NH and northern MA. If maintained in an open manner, this parcel will continue to help support the wildlife species that depend on large unbroken tracts of forestland and farmland.

Boundaries

Since the property consisted of old agricultural and pasture land at one point in the properties history, many of the boundary lines consist of old stone walls. Evidence of old wire fence can be found where stonewalls are not present. Scattered blazes and paint can be found along the southern boundary of the property from previous landowners and/or abutters past management. Since the property had been extensively surveyed before the town voted to purchase the property, there are iron pins in many of the corners. It should be noted that the western most boundary shares the same line as the Milford/Mason town line. The northeastern corner of the property has limited boundary evidence and it is highly recommended that this corner of the property be re-established by a licensed surveyor due to the lack of current boundary evidence. Overall the boundary lines for this property are in good discernible shape. At the time of the field work of the plan, the approximate boundary lines were flagged in pink flagging with their location being referenced with a GPS unit. The overall boundary line condition is in good shape.

Access

Access is a key component for active stewardship. When a property becomes more operable, more can be accomplished under the umbrella of stewardship.

An extensive logging history of the property has made the majority of the property fairly accessible. Much of the current access has the potential to be upgraded for future use. The majority of the western half of the property can be accessed from Mile Slip Road. The current parking lot area appears to have been previously used as a landing area and could be used as one in the future. Older past access points can also be seen originating

along Mile Slip Road leading into the western part of the property. A woods road can be found originating from the parking lot area and heading west off of the property. This road is currently being used as part of the 501 Snowmobile Corridor. Many of the skid trails on the western half of the property have been converted to multi-use trails. Moderate to heavy ATV usage was observed on these trails although it is prohibited. New trails such as the Mitchell Brook hiking trail have been established.

The eastern half of the property can also be accessed from Mile Slip Road. Previous logging operations have upgraded a small portion of the Class VI section and created a landing area just east of the road just as it turns to a Class VI road. A woods road leads easterly into the property to another landing found in a more centralized section of the eastern part of the property. This landing area appears to have become a “party spot” for local residents. At the time of the field work it appeared to be inactive. Garbage and debris are still present in the old landing area. Little work would be needed to upgrade the access as well as the landing areas. Like the western half of the property, many of the skid trails have been converted to multi-use trails but see moderate to heavy ATV usage although it is prohibited. The Summit Trail hiking trail has also been established; separate from old skid trails. The 501 Snowmobile Corridor also cuts through the eastern part of the property, entering the property from the southern boundary and exiting the property on the western boundary.

It should be mentioned that this property was once opened up to ATV access and usage after the town had purchased the property. Many of the skid trails had been converted into a network of ATV trails. After a series of events, the property was closed to ATV access. Since the closure of trails to ATV usage, the trails have been slowly growing back in. Many of the trails were rehabilitated to prevent future erosion over time upon their closure, but current illegal ATV usage has caused erosion on some of the more heavily used trails. *When enjoying the property, it is recommended that trail maps be obtained from the town to ensure adequate navigation of the property.*

Forest Types & Harvest History

Forests with varying composition in terms of species, age, and density are able to respond with more resiliencies to catastrophic events than monocultures. Most trees in unmanaged, overgrown forests are chronically deprived of much needed nutrients, sunlight, and water, therefore constantly living in stressed environments. Pre-stressed trees are much more susceptible to disease than their healthy counterparts growing in a well spaced, healthy forest. Forests are broken down into management units called stands which are areas of trees with similar species composition, size, and frequency of occurrence. This property has been extensively harvested since the 1990s. The age of these harvests can be gauged by the state of decay of the stumps, the healing of tree scars, and the age of the regeneration. Some past harvesting activities have left a high component of poor quality trees that could not be cut and sold. New technologies and markets will allow for the removal of the very poor quality component from the stands. Overall the forest is healthy, but under stocked in many of the stands.

Soils, Terrain, & Hydrology

Forests are essential for preventing erosion of existing soil and maintaining clean water. Riparian and wetland areas are the places that open water and upland sites meet. A riparian zone is the general term for the area where water and land meet, whereas a wetland is an area in a riparian zone that specifically has hydric, or wet, soils as well as vegetation that grows primarily on that type of soil. Riparian areas are important for a number of reasons. They offer critical habitat for many wildlife species, providing shelter, food, water, and travel corridors. They are also very useful for flood control by acting as a sponge during time of high water volume, and then releasing that water slowly and consistently over time. Without wetlands, streams would fluctuate greatly between periods of high flow and dry streambeds. Finally, riparian areas are key for filtering water as it travels from upland sites to the open water, keeping out many chemical impurities and keeping water silt free, all of which are crucial for maintaining a healthy watershed system. Forest management activities will focus on following best management practices (BMP's) in order to protect the valuable water resource. See Soils Appendix A.

Wildlife

Biological diversity can be described as the variety of plants and animals located in a given tract of land or landscape and the communities that are formed by that variety of species. Two of the biggest threats to biological diversity are loss of habitat to non-forest uses and invasive species. A diverse landscape means more species diversity. Wildlife populations and species diversity are fairly high throughout the property. Most native species appear to use multiple aspects of the property throughout the year. Some of the species include but are not limited to moose, bear, deer, coyotes, turkey, partridge, and several non-game birds, animals, flora, and fauna. The majority of the practices prescribed for this property will improve wildlife habitat.

Wildlife Action Plan

The town of Milford recognizes that the native wildlife species of New Hampshire need appropriate habitat for food, water, shelter, and raising young. To that end, diversity of tree and plant species is encouraged by utilizing proper forest management practices. Habitat has been mapped and identified using the state's Wildlife Action Plan. Improving the overall health of the forest coincides with maintaining and enhancing habitat for wildlife. See Wildlife Action Plan Appendix B.

Timber Cruise

A detailed timber cruise was completed on the property using a 400' by 400' spacing on the entire 452.25 acre property. There were a total of 102 inventory plots taken across the entire parcel. This data was used to tabulate the current tree growth on the property, and the filed notes made during the cruise helped to create many of the maps in this management plan. A cruise is a statistical sample that is used to determine the volumes of

various forest products growing on the property. This cruise generates volumes in terms of cords (for all trees 6-11" in diameter, or trees larger than 11" that are not suitable for saw timber) and board feet (for trees 12" and greater in diameter that could be sold and sawn into boards). The diameter of a tree is measured at 4.5' above the ground, which is an industry standard referred to as diameter at breast height (DBH). From this intensive cruise, a total of 6 stands are shown for this parcel. Stands are areas of trees with similar species composition, size, and frequency of occurrence. These stands will be the basis for the methodical analysis of the forest management plan, and are depicted on the stand map shown in the plan.

Landowner Goals & Objectives

The primary management objectives of the Town of Milford Conservation Commission:

1. Maintain the vast majority of the property as open space for forestry, recreational, wildlife and educational purposes.
2. Allow for the development of additional recreational opportunities located in environmentally appropriate areas, as they are needed.
3. Conduct environmentally sound, long term multiple-use management practices which over time will upgrade the quality and health of the timber resource, improve access for recreational and educational opportunities, as well as protect and improve wildlife habitat.

Required Elements

Timber – One of the main goals for this property is sound timber management in order to sustain a healthy forest and produce a periodic income. A list of management strategies on a stand-by-stand basis is discussed later in this plan.

Fish/Wildlife Habitat – Care will be taken to maintain and improve forest biodiversity on the property. Proper care will ensure that the integrity of the property isn't compromised for the future. This property plays an important role for wildlife connectivity with the surrounding properties. Since there are invasive species on this property, they should be addressed and treated in order to prevent future spreading of the invasive species. An inventory should be taken of the invasive species present on the property before management is considered. A way this can be accomplished is by mowing and spraying the invasive species with approved herbicides. This is highly recommended so that invasive species do not fully take hold of the property and out compete the native species. Invasive species are detrimental to the natural ecosystem and should be controlled.

Soil – Care will be taken to not harvest in mud season, when the ground is too soft, or on excessive slopes, to minimize rutting and erosion during harvest operations. Landings

will be limed and seeded with a conservation grass mix at the conclusion of the job to stabilize the soil, and waterbars will be installed on skid trails where necessary.

Water Quality – Buffers will be left along streams and the wetland edge to avoid removing too many trees at once; this will provide soil stabilization along waterways and adequate shade. This shade will decrease water temperature and therefore increase the water's oxygen-holding capacity. The wetlands and streams will be left intact to keep the water clean and silt-free. Poled fords will be used when crossing smaller streams to further prevent siltation. Fueling of machines will not take place near the water's edge to prevent pollution.

Recreational Resources – The skid trails provide a nice network of trails for recreational opportunities, both for walking and wildlife viewing. To this end, trails will be kept free of slash where possible.

Aesthetic Values – To maintain good aesthetics, logging operations will not rut up the soils and will cut up the tops so they lay close to the ground for rapid decay. Special guidelines, NH Best Management Practices, have been created to ensure the integrity of this property is maintained for the future.

Cultural Features – Care will be taken to avoid breaching or breaking the stone walls during timber harvests unless no openings exist to allow the trees to be skidded to the landing. To accomplish this, loggers will use existing bar ways for skidding. Special guidelines, NH Best Management Practices, have been created to ensure the integrity of this property is maintained for the future.

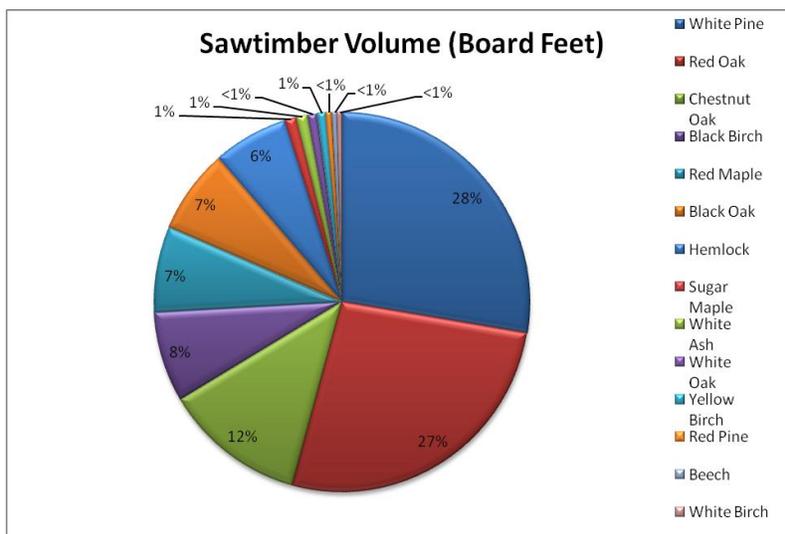
Forest Protection – The diversity of tree species does well to protect this property from a forest pest looking for a monoculture of timber. By keeping logging slash low to the ground, decay is speeded up; this prevents too much of a buildup of fuels as a fire hazard.

Wetlands – In order to preserve the integrity of more sensitive areas of this woodlot, wetlands will only be harvested under dry or frozen conditions.

Threatened/Endangered Species and Unique Natural Communities – During all the walks through this forestland, no species were identified as either threatened or endangered. Direct contact with the Natural Heritage program will be necessary to determine these special interests species before any action is taken on this property. If at some time any flora or fauna are identified on this property as such, appropriate measures will be taken to prevent disturbing that species. See Wildlife Action Plan Appendix B.

Forest Products Summary Table for Milford Conservation Commission, Mile Slip Town Forest, Milford, NH Total Acreage: +/- 452.25 acres

Species	(Board Feet)		
White Pine	320,870		
Red Oak	309,169		
Chestnut Oak	141,306		
Black Birch	89,213		
Red Maple	84,941		
Black Oak	83,469		
Hemlock	75,024		
Sugar Maple	12,037		
White Ash	11,308		
White Oak	9,278		
Yellow Birch	8,749		
Red Pine	5,910	Hardwood Cordwood	2,229 cords
Beech	4,816	Softwood Pulpwood	442 cords
Total Volume	1,160,905¹	Total Volume	2,671 cords²



1 This sawtimber total represents all the trees of sawtimber quality 12 inches and greater in diameter found in this block. In order to capture this total volume, all trees of this specification would have to be harvested.

2 These cordwood totals, both softwood and hardwood, represent all the standing trees with diameters of 6-11.9 inches found in this block, as well as trees of larger diameters that do not meet sawtimber quality specifications. In order to capture this total volume, all trees of this specification would have to be harvested.

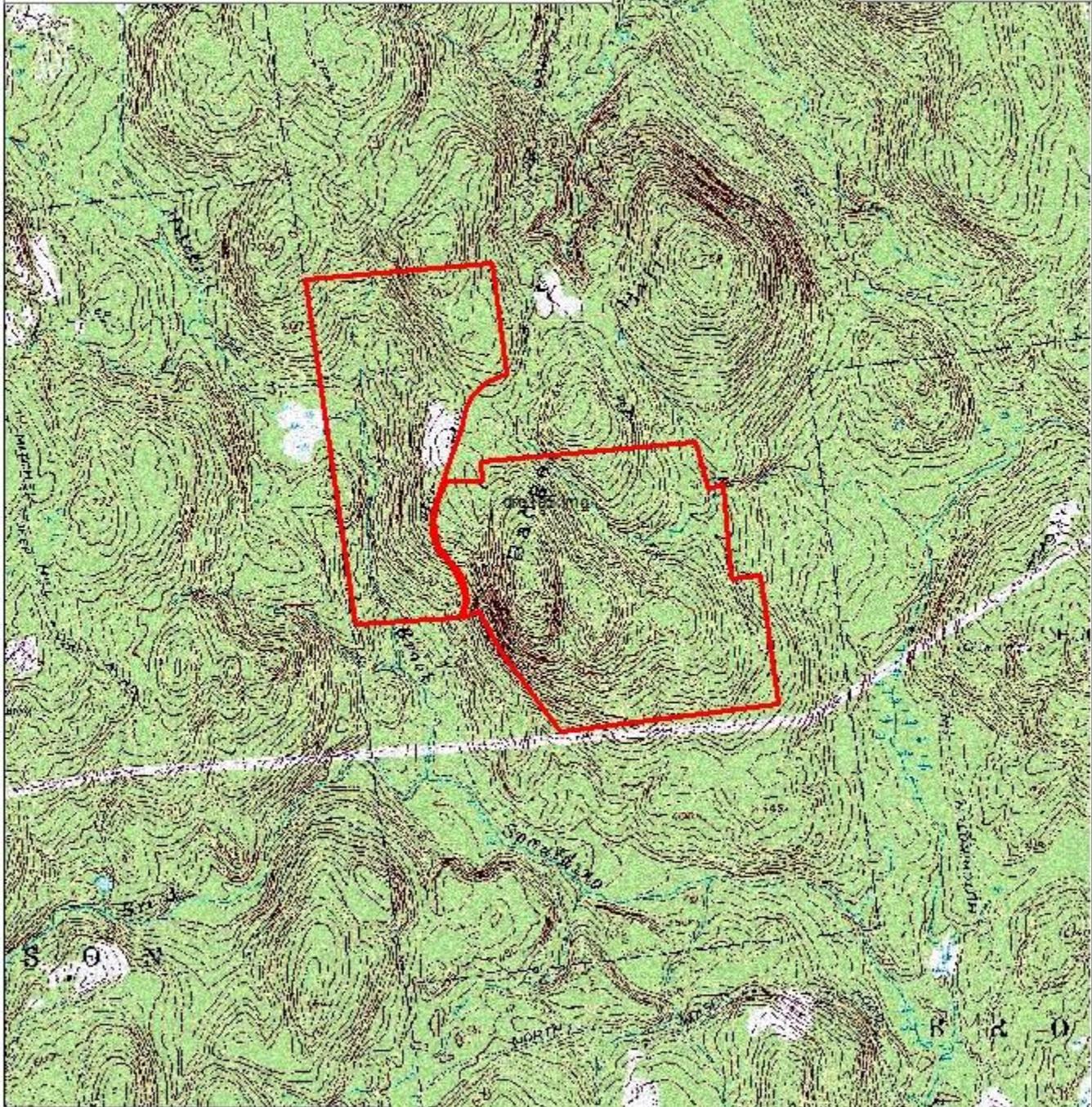
Locus Map

Town of Milford- Mile Slip Town Forest
+/-452.25 ac

Mile Slip Road, Milford, NH
Map created by Eric Radlof
of Bay State Forestry Service.

Data Source: Tax Maps, GPS Points, KEA Inc 2004 Survey,
and 2010 NH GRANIT GIS Aerial and Topo.

NOT intended as a survey map, for forestry purposes only.



1 Inch = 2,000'

2,000 1,000 0 2,000



Feet

Legend

 Boundary

Photo Map

Town of Milford- Mile Slip Town Forest
+/-452.25 ac

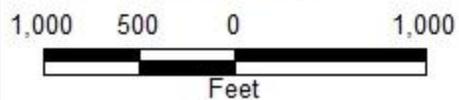
Mile Slip Road, Milford, NH
Map created by Eric Radlof
of Bay State Forestry Service.

Data Source: Tax Maps, GPS Points, KEA Inc 2004 Survey,
and 2010 NH GRANIT GIS Aerial and Topo.

NOT intended as a survey map, for forestry purposes only.



1 Inch = 1,000'

**Legend**

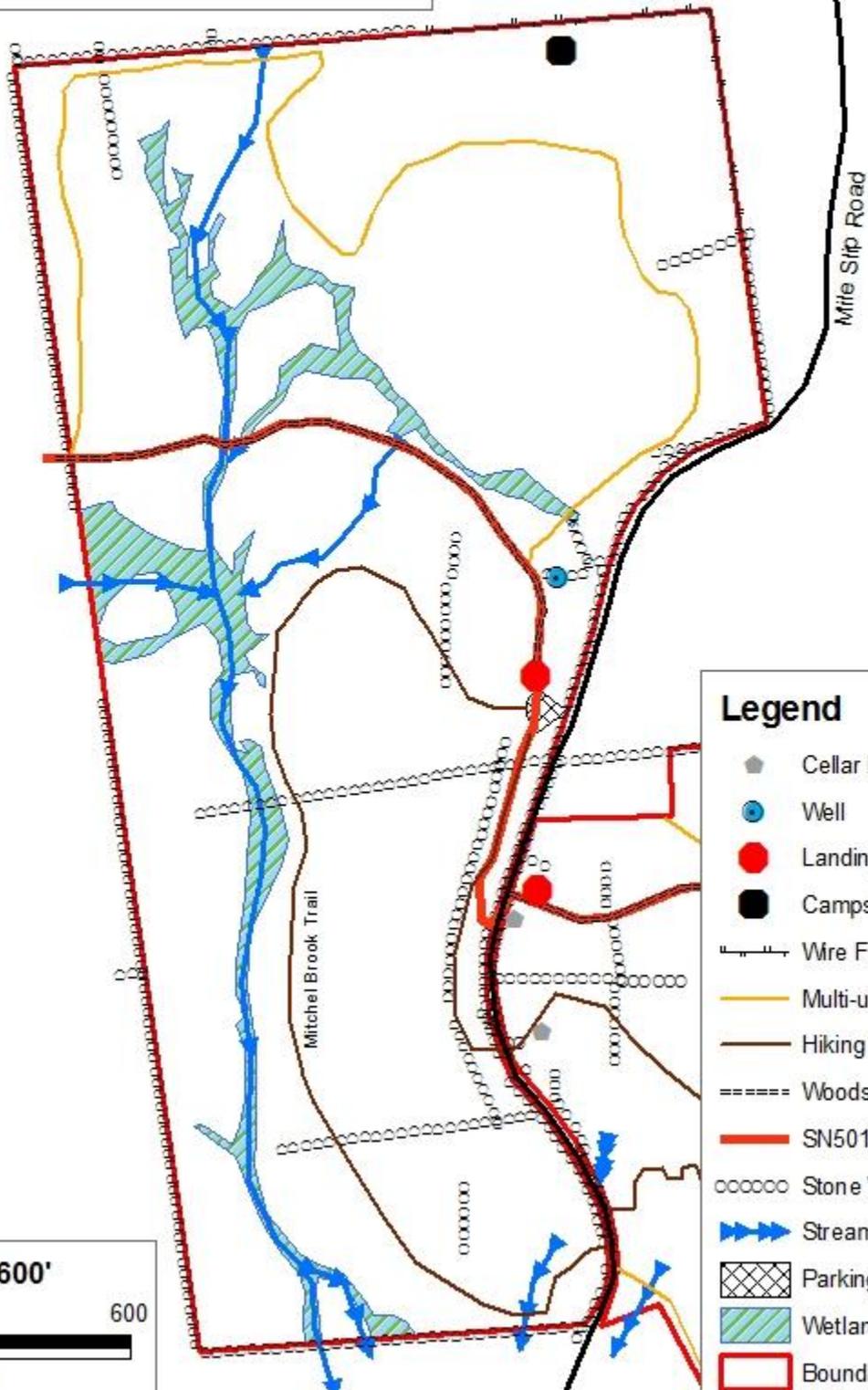
 Boundary

Property Map (West)

Town of Milford- Mile Slip Town Forest
 +/-452.25 ac (+/-181.87 ac)
 Mile Slip Road, Milford, NH
 Map created by Eric Radlof
 of Bay State Forestry Service.



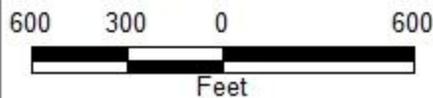
Data Source: Tax Maps, GPS Points, KEA Inc 2004 Survey,
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Legend

- Cellar Hole
- Well
- Landings
- Campsite
- Wire Fence
- Multi-use Trail
- Hiking Trails
- Woods Road
- SN501 Trail
- Stone Walls
- Streams
- Parking Lot
- Wetlands
- Boundary

1 Inch = 600'

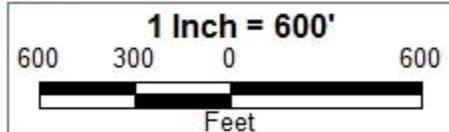
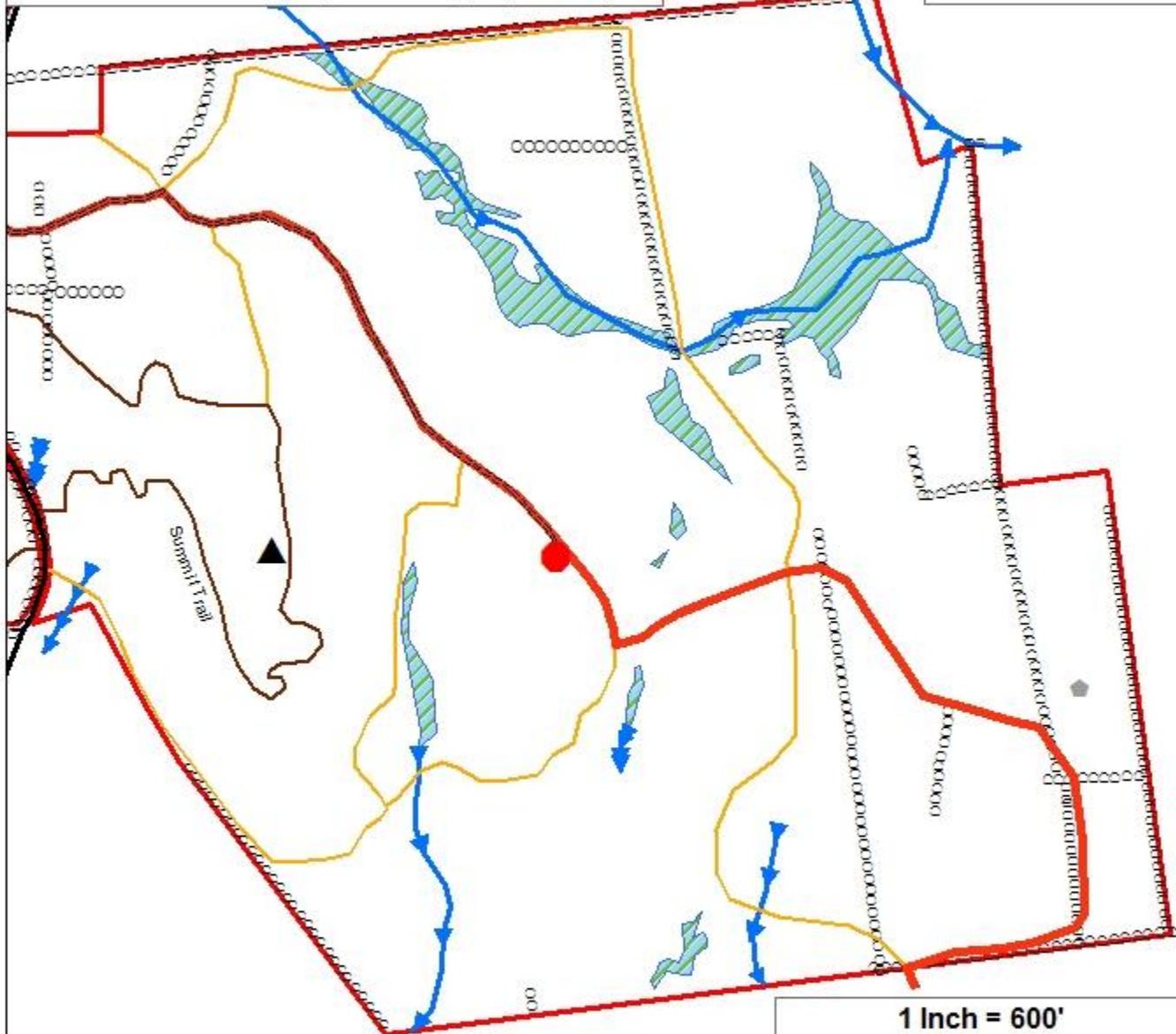


Property Map (East)

Town of Milford- Mile Slip Town Forest
 +/-452.25 ac (+/-270.39 ac)
 Mile Slip Road, Milford, NH
 Map created by Eric Radlof
 of Bay State Forestry Service.



Data Source: Tax Maps, GPS Points, KEA Inc 2004 Survey,
 and 2010 NH GRANIT GIS Aerial and Topo.
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Legend

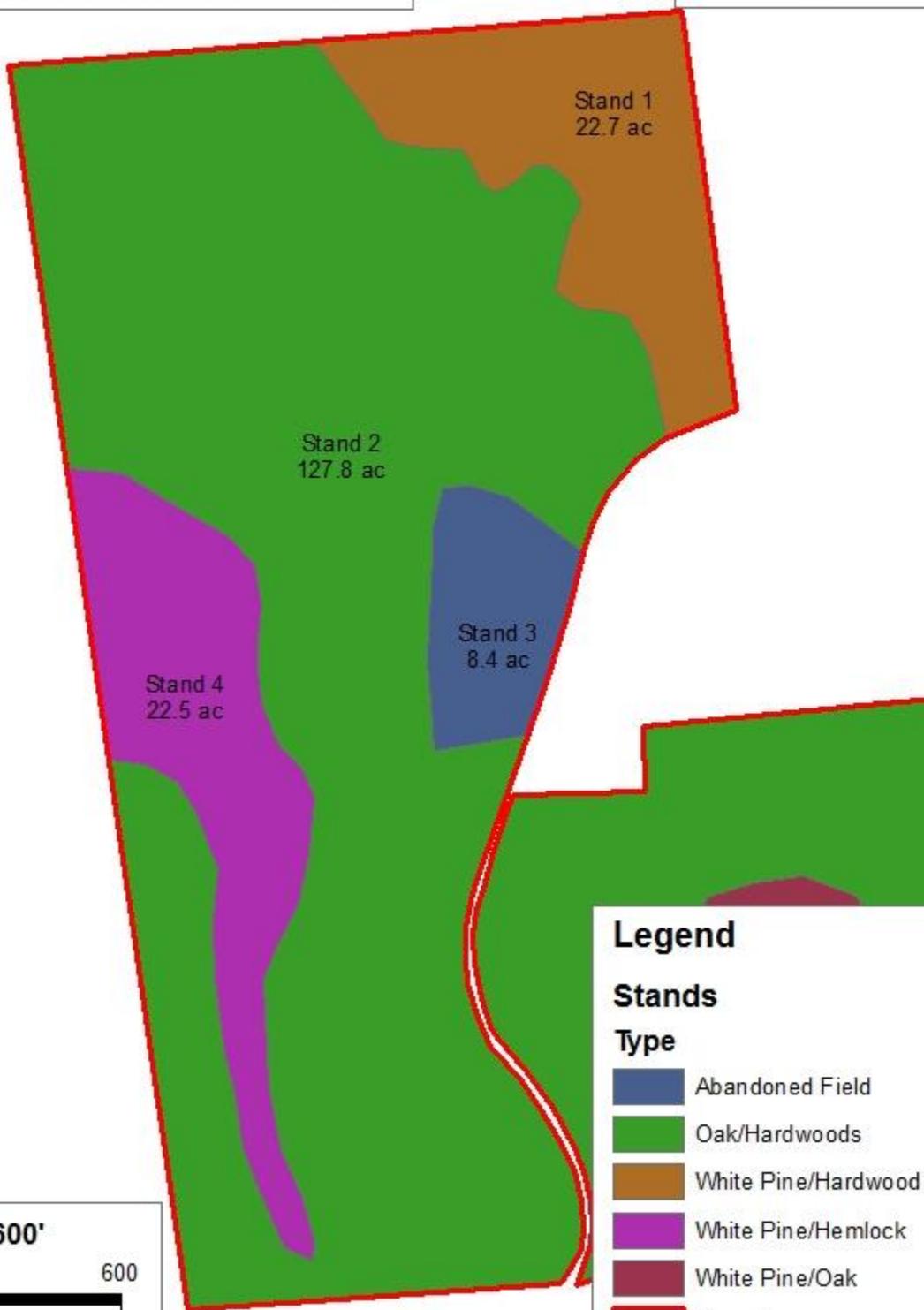
- | | | | | | | | |
|---|-------------|-------|-----------------|--------|-------------|--|----------|
| ◆ | Cellar Hole | — | Multi-use Trail | — | SN501 Trail | | Wetlands |
| ● | Landings | — | Hiking Trails | ○○○○○○ | Stone Walls | | Boundary |
| ▲ | Summit | ----- | Woods Road | ▶▶▶▶ | Streams | | |

Stand Map (West)

Town of Milford- Mile Slip Town Forest
 +/-452.25 ac (+/-181.87 ac)
 Mile Slip Road, Milford, NH
 Map created by Eric Radlof
 of Bay State Forestry Service.



Data Source: Tax Maps, GPS Points, KEA Inc 2004 Survey,
 and 2010 NH GRANIT GIS Aerial and Topo.
 NOT intended as a survey map, for forestry purposes only.



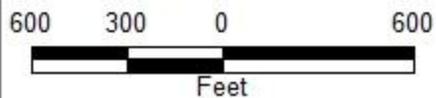
Legend

Stands

Type

- Abandoned Field
- Oak/Hardwoods
- White Pine/Hardwood
- White Pine/Hemlock
- White Pine/Oak
- Boundary

1 Inch = 600'



Stand Map (East)

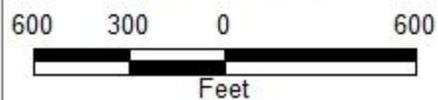
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1 Inch = 600'



Legend

Stands

Type

-  Oak/Hardwoods
-  White Pine/Oak
-  Boundary

Forest Management Plan

Stand 1 – White Pine/ Hardwood, 23.16 Acres

Standing

Volumes:

Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
White Pine	28	3,891.0	89,493
Red Maple	4	311.8	7,172
Hemlock	2	205.8	4,733
Chestnut Oak	2	157.6	3,624
Red Oak	2	152.8	3,514
Sawtimber Total	38	4,719	108,536
		Cords/ac.	Total Cords
Softwood Pulp	18	2.9 cds	67 cds
Cordwood	22	3.4 cds	79 cds
Cord/Pulp Total	40		
All Products	78		

Description:

This stand is located in the northeastern corner of the property, found west of Mile Slip Road. The stand is composed of scattered white pine, ranging from poor to good quality. The quality of the pine appears to become poorer around the Campsite in the western part of the stand at the height of the terrain. In the overstory, the white pine ranges in size from 10-14 inches in diameter at breast height (dbh) with scattered pockets of trees ranging in size from 16-24 inches at dbh. Other associated species found in the overstory include but are not limited to scattered red maple, chestnut oak, red oak, and hemlock ranging in size from 10-16 inches at dbh with some scattered 18+ inches at dbh. All of these species with the addition of black birch can be found scattered in the moderately stocked understory ranging in size from 4-8 inches at dbh. The majority of this stand has not been harvested as extensively as the other stands on the property. Much of the stand displays the characteristics of an uneven-aged stand. The regeneration has responded from past harvesting (pre-1990s) and is made up of large sapling sized black birch, red maple, and white pine found throughout the stand. The past harvesting has created small areas of concentrated advanced regeneration, primarily black birch, up to 4 inches at dbh. Areas of dense white pine regeneration are found where more recent harvesting has taken place along the southern edges of the stand. Witch hazel and mountain laurel are present in this stand and are found mainly in the northern sections of the stand in various concentrations.

Multiple signs of wildlife are present throughout the stand. Game trails are found throughout the regeneration and the old skid trails. Soft mast from the high bush and low bush blueberry add a great wildlife benefit as well as the hard mast from the oak trees. Large snag trees and coarse woody debris from previous harvesting operation are an added benefit for wildlife. Signs of white tailed deer, black bear, coyote, and turkey were observed in this stand.

The topography is relatively flat with a slight slope towards the south and west with slopes becoming greater in the western part of the stand. The stand consists of the higher elevation (~700') on the property to the west of Mile Slip Road. The stand is moderately well drained however does contain seasonally wet soils. A multi-use trail is present in this stand and has been established on some of the older existing skid trails.

Recommendations:

The desired future condition of this stand is a healthy white pine/ hardwood stand with increased vigor. Emphasis will be placed on promoting the timber quality of this stand while trying to increase the health, aesthetics, and wildlife benefits. A commercial thinning is recommended but not mandatory. Suppressed trees and those with low vigor will be selected for removal. These trees can be identified by their smaller crowns, poor growth form and lower position in the canopy. By reducing the competition and damaged trees, the remaining trees will promote a healthier forest. Although this treatment is not designed to regenerate the stand, the increased sunlight is expected to result in some regeneration of shade tolerant species as well as releasing suppressed regeneration. The remaining stand will consist of well spaced dominant white pine and mixed hardwoods. This treatment will generate white pine and mixed hardwood saw logs, cordwood, pulpwood and/or biomass fuel chips. Entry should be limited to dry or frozen ground conditions to minimize any negative impacts to the soils and reduce damage to the root systems of the remaining trees. The end result will be a healthier stand that promotes timber growth. A harvest in this stand can coincide with other stands harvest on the rest of the property or by itself. This stand can be harvested by conventional or mechanical methods depending on the specific goals and objectives at the time of the harvest. The landing area for a future harvest could be anywhere along the western edge of Mile Slip Road at an existing access point or near the parking lot area which has been previously used as a landing.

Landing access should emphasize shorter skidding distances when possible with effort being placed on protecting the residual stand. Periodic maintenance of landing areas can allow them to act as early successional habitats/ wildlife openings, creating additional biodiversity.

Stand 2- Oak/ Hardwood, 127.8 Acres

Standing Volumes:

Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
Red Oak	10	916.5	117,316
White Pine	2	295.7	37,843
Red Maple	3	260.4	33,335
Black Birch	2	180.5	23,102
Black Oak	2	149.5	19,132
Chestnut Oak	2	127.1	16,263
Sawtimber Total	21	1,930	246,991
		Cords/ac.	Total Cords
Softwood Pulp	3	0.5 cds	68 cds
Cordwood	36	5.5 cds	708 cds
Cord/Pulp Total	39		
All Products	60		

Description:

This large stand makes up the majority of the property found west of Mile Slip Road, (approximately 70%). The stand is composed of scattered good quality red oak with mixed hardwoods. In the overstory, the red oak ranges in size from 10-14 inches in diameter at breast height (dbh) throughout the stand. The other main species found throughout the overstory include but are not limited to red maple, black birch, black oak, and chestnut oak in size from 8-12 inches at dbh. There is also white pine scattered sparsely throughout this large stand ranging in size from 10-16 inches at dbh. Some large diameter white pine trees have been left as wildlife trees. These trees are often multi-leader, poor quality trees. All of these species can be found scattered in the moderately stocked understory ranging in size from 2-6 inches at dbh.

Since the majority of this stand has seen extensive harvesting since the 1990s, the majority of the larger diameter trees have been cut, typically seen with a diameter limit cut. The original overstory has essentially been removed allowing for the original understory to become the new dominant strata layer in the residual stand, changing the stand structure by removing an age class of trees. Regeneration established directly following the extensive harvesting has become the new understory. The end result is a two aged stand. Management previous to the 1990s had created the desirable uneven-aged stand structure, which led to the successful stand structure that is visible today. Extensive skid trail layout in multiple directions, varying stump age, and varying understory age supports evidence that this stand was harvested multiple times within a

shorter than desired time frame for long term sustainable management. However, the end result is a forested stand with an inconsistent structure which in return is an added benefit. The regeneration/ understory has responded from the past harvesting and is made up of large sapling sized black birch, red maple, and white pine found throughout the stand. The past harvesting has created small areas of concentrated advanced regeneration including white birch, red maple, hemlock and/or black birch up to 4 inches at dbh. These areas are up to ¼ acres in size and can be found throughout the 128 acres. Some of these areas are more noticeable in the northern part of the stand. Witch hazel and mountain laurel are also present in this stand at varying densities, competing with the regeneration.

Multiple signs of wildlife are present throughout the stand. Game trails are found throughout the regeneration/ understory and the old skid trails. Soft mast from the high bush and low bush blueberry add a great wildlife benefit as well as the hard mast from the oak trees. Large snag trees and coarse woody debris from previous harvesting operation are an added wildlife benefit. Signs of white tailed deer, black bear, coyote, and turkey were observed in this stand. Signs of moose were seen around the wetland and stream areas. The wetlands and streams are an added benefit for interior forest dwelling amphibians and mammals.

The topography slopes to the south and to the west towards Mitchell Brook. The stand is moderately well drained but does contain seasonally wet soils. Due to the variable terrain in the stand, a network of wetlands and streams originate from the lower laying ground found at the bottom of the slopes in the northern part of the stand and drain into Mitchell Brook. These wet areas appear to remain wet year round. Previous harvesting has stayed out of these lower laying areas.

A series of trails are present in this stand with some of them being established on the older existing skid trails; such as the Mitchell Brook Trail, the 501 Snowmobile Corridor, and other multi-use trails. It should also be noted that at the time of the field work, new trails were in the process of being constructed. Other small paths were also observed in the central and southern portions of the stand. A variety of stonewalls are present in this stand, located primarily to the central part of the stand, southwest of Stand 3. Their overall design hints toward previous pasturing of animals.

Recommendations:

The desired future condition of this stand is a healthy oak/ hardwood stand with increased vigor. Emphasis will be placed on promoting the timber quality of this stand while trying to increase the health, aesthetics, and wildlife benefits. At this current time a commercial thinning is not recommended. The stand stocking level is less than the desired optimal stocking for sustainable growth. Additional harvesting of this stand may compromise the current growing stock. A commercial thinning could lead to epicormic growth on crop trees such as red oak, depreciating their overall value as timber. Opening up the stand more could result in wind throw or loss of regeneration to weather events such as snow

and ice storms. The current stand consists of well spaced dominant crop trees with desirable crown spacing to allow for growth. It has been approximately 10 years since a harvest has taken place in this stand. The stand has responded to the last harvest and the stand should be monitored periodically to assess the rate of growth. This should be done every 10 years. In another 10 years, portions of this stand may be ready for a commercial harvest. Access for this stand can be obtained from the parking lot area off of Mile Slip Road as well as any other entry points off of the Class VI section of Mile Slip Road.

Stand 3- Abandoned Field, 8.4 Acres

Standing Volumes:

Species	Average BA per acre (sq. ft.)	Volume per acre (bd. ft.)	Total Volume (bd. ft.)
NA	NA	NA	NA
Sawtimber Total	NA	NA	NA
Cordwood	NA	NA	NA
Softwood Pulp	NA	NA	NA
Cord/Pulp Total	NA		
All Products	NA		

Description:

This smaller stand is located around the parking lot area off of Mile Slip Road. This even aged stand is composed mainly of white birch, grey birch, white pine, and black birch. The trees range in size from 2-6 inches at dbh and are concentrated around the edges of the stand. The white pine can be found along the western edge of the stand while the black birch can be found mainly in the northern part of the stand. The parking lot area is located within the southern part of the stand with a small field area to the north. Many of the old skid trails and recreational trails originate from this point. The stand appears to have been cleared at some point, either for a field or for future development inquiries. The stonewall found along the western edge of the stand consists of many stones which supports evidence of past agricultural use of this large flat area. Larger stones can be found on the western side of the stone wall as well. A "road" leads westerly out of the central part of the stand to a large pile of semi buried rocks, supporting evident of past uses. At this current time this previously open area has been left to grow back through the natural succession of re-growth. Some effort has been taken to maintain the parking lot area and the field to the north of it. Grasses, rubus species, ferns, seedlings, and saplings have been slowly taking over the remaining open space. The edge effect has been slowly taking place for the past 20 years. A small well was found in the northern part of the stand supporting evidence of past use.

The overall stand health is good with plenty of growing stock. The stands current condition lends itself as great early successional habitat with a high stem count and dense crown closure. This habitat type favors small mammals such as the cotton tail rabbit, woodcock, grouse etc. The remaining old field area promotes habitat for migratory birds that thrive in early successional habitat. However the stand is transitioning into a young forest (10-20 years old) as noted by the larger diameter 2-6 inch at dbh pole stocking. The soils appear to be moderately well drained but transition to poorly drained soils in the northern part of the stand by the stonewall and well.

Recommendations:

Given the current state of the stand and the town's desire to create and/or maintain wildlife habitat, this stand should be managed as wildlife habitat. Periodic mowing and/or clear-cutting can create permanent early successional habitat. Since this stand is already a multi-use stand, management of this type can allow the multiple uses to coincide with each other in perpetuity. Grants and guidance can be gained through the help of organizations such as the Wildlife Management Institute (WMI), NH Fish & Game, US Fish and Wildlife Service's Partners for Fish and Wildlife Program, and USDA Natural Resources Conservation Service to help with projects such as this one.

Stand 4 –White Pine/ Hemlock, 22.5 Acres

**Standing
Volumes:**

Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
White Pine	10	1,160.2	25,525
Hemlock	7	915.7	20,146
Red Maple	7	780.4	17,170
Sawtimber Total	24	2,856	62,840
		Cords/ac.	Total Cords
Softwood Pulp	33	5.9 cds	130 cds
Cordwood	40	5.8 cds	127 cds
Cord/Pulp Total	73		
All Products	97		

Description:

This stand is found in the central area of the property west of Stand 2 and surrounds Mitchell Brook. The stand is composed of a white pine, hemlock and mixed hardwoods overstory, ranging from fair to good quality. The trees in the overstory range in size from 10-16 at diameter at breast height (dbh). This stand has some of the highest concentrations of white pine and hemlock on the property. The understory in this stand is composed of mixed oak, black birch, yellow birch, red maple, hemlock, and white pine ranging in size from 3- 10 inches at dbh. Black gum was also observed in this stand ranging in size from 8-12 inches in dbh. The regeneration in this stand is moderate, consisting of hemlock, mixed oak, black birch, and red maple saplings up to 8 ft tall. Mountain laurel and witch hazel are also present in this stand, competing with the regeneration. Similar to Stand 2, this stand has seen extensive harvesting since the 1990's. The overall intensity of harvesting throughout the stand is noticeably less compared to the other stands. Signs of harvests before the 1990s were also observed in this stand.

This stand acts as a filter strip/ buffer for Mitchell Brook, the surrounding wetlands, and the beaver pond found in the northern part of the stand. (The majority of the old beaver pond resides off of the property.) Past harvesting practices have followed NH Best Management Practices (BMP's) in an effort to not compromise the integrity of the brook and the sensitive ground surrounding the brook.

The topography is relatively flat with a slight rolling slope towards Mitchell Brook. The site varies from moderately well drained soils to poorly drained soils specifically in the

northern part of the stand near the beaver pond, which primarily resides to the west off of the property. The stand structure allows for biodiversity on a property where many of the stands are large and uniform. The higher concentration of hemlock adds vertical structure, desirable for interior forest dwelling species such as the barred owl. The hemlock and white pine help shade the brook allowing the water temperatures to stay cooler in return creating a healthier water resource. Signs of white tail deer, black bear, and moose were observed in this stand.

Although Hemlock Woolly Adelgid is present in Milford, it was not observed in this stand. The overall current health of the stand appears to be good. This stand is one of the more unique places of the property lending itself to great wildlife viewing potential, accessible by the Mitchell Brook Trail which adds great recreational opportunities for one of the more remote sections of the property.

Recommendations:

The desired future condition of this stand is a healthy white pine/hemlock stand with increased vigor. Emphasis will be placed on promoting the timber quality of this stand while trying to increase the health, aesthetics, and wildlife benefits. At this current time a commercial thinning is not recommended. The stand stocking level is at a desirable stocking level for sustainable growth. Additional harvesting of this stand may compromise the current growing stock. A commercial thinning could lead to lowering the stocking level below the optimal stock for sustainable growth. Opening up the stand more could result in compromising the health, aesthetics, and wildlife benefits. The current stand consists of well spaced dominant crop trees with desirable crown spacing to allow for growth. It has been approximately 10 years since a harvest has taken place in this stand. The stand has responded well to the last harvest and the stand should be monitored periodically to assess the rate of growth. This should be done every 10 years. In another 10 years, portions of this stand may be ready for a commercial harvest. Access for this stand can be obtained from the parking lot area off of Mile Slip Road through Stand 2. NH BMPs specific to streams and wetlands should be followed when considering any harvesting activity of this stand.

Stand 5 –Oak/ Hardwood, 234.15 Acres

Standing Volumes:

Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
Red Oak	8	755.1	176,693
White Pine	3	528.1	123,566
Chestnut Oak	5	414.9	97,080
Black Oak	2	274.9	64,337
Black Birch	3	259.3	60,668
Hemlock	2	214.3	50,145
Red Maple	1	96.2	22,515
White Ash	1	48.3	11,308
White Oak	<1	39.6	9,278
Yellow Birch	<1	37.4	8,749
Sugar Maple	<1	31.2	7,296
Red Pine	<1	25.3	5,910
Beech	<1	20.6	4,816
White Birch	<1	20.6	4,816
Sawtimber Total	25	2,766	647,177
		Cords/ac.	Total Cords
Softwood Pulp	2	0.3 cds	69 cds
Cordwood	33	5.1 cds	1,193 cds
Cord/Pulp Total	35		
All Products	60		

This large stand makes up the majority of the property found east of Mile Slip Road, (approximately 85%). The stand is composed of scattered good quality red oak and mixed hardwoods. In the overstory, the red oak ranges in size from 10-14 inches in diameter at breast height (dbh) throughout the stand. The other main species found throughout the overstory include white pine, chestnut oak, black oak, and black birch ranging in size from 8-12 inches at dbh. There are also areas of hemlock scattered throughout this large stand ranging in size from 10-16 inches at dbh. Often associated with the pockets of hemlock are black birch, yellow birch, beech, and sugar maple. These areas are found concentrated around poorly drained soils near streams or forested wetlands. Some large diameter white pine trees have been left as wildlife trees. These trees are usually poor quality multi-leader trees. Like the overstory, all of these species can be found scattered in the moderately stocked understory ranging in size from 2-6 inches at dbh.

Similar to Stand 2, the majority of this stand has seen extensive harvesting since the 1990's, the majority of the larger diameter trees have been cut, typically seen with a

diameter limit cut. The original overstory has essentially been removed allowing for the original understory to become the new dominant strata layer in the residual stand, changing the stand structure by removing an age class of trees. Regeneration established directly following the extensive harvesting has become the new understory. Management previous to the 1990s had created the desirable uneven-aged stand structure, which led to the successful stand structure that is visible today. Extensive skid trail layout in multiple layout patterns, varying stump age, and varying understory support evidence that this stand was harvested multiple times within a shorter than desired time frame for long term sustainable management. However, the end result is a forested stand with an inconsistent structure, which in return is an added benefit, creating biodiversity within the stand type.

The regeneration/ understory has responded from the past harvesting well and is made up of large sapling sized black birch, red maple, mixed oak, hemlock, and white pine found throughout the stand. The past harvesting has created small areas of concentrated advanced regeneration including white birch, red maple, hemlock and/or black birch up to 4 inches at dbh. These areas are up to ¼ acres in size and can be found throughout the 234 acres. Witch hazel and mountain laurel are also present in this stand at varying densities, competing with the regeneration.

The topography in this stand is quite variable with a ridge running southwesterly from Badger Hill in Stand 6. The stand is moderately well drained however does contain seasonally wet soils found at the bottom of the slopes. Due to the terrain in the stand, a network of wetlands and streams originate from the lower lying ground found at the bottom of the slopes in the north eastern part of the stand and drain into a stream which flows off of the northeastern corner of the property. These wet areas appear to remain wet year round. Previous harvesting has stayed out of these lower lying areas.

A series of trails are present in this stand with some of them being established on the older existing skid trails; such as the Summit Trail, the 501 Snowmobile Corridor, and other multi-use trails are some to note. It should also be noted that at the time of the field work, new trails were in the process of being constructed. Other small paths were also observed in the western portions of the stand. A variety of stonewalls are present in the northern, western, and eastern parts of the stand. Along with the stonewalls found in the eastern part of the stand is a small cellar hole. Their overall design hints toward previous pasturing of animals.

The stand wraps around Stand 6 near the Class VI portion of Mile Slip. Here are a series of cellar holes along the eastern edge of the road. The southernmost cellar hole is quite significant and is a point of interest. Also found in this part of the stand is a previously used landing area. Coming out to the eastern side of the old landing area is a woods road that leads to another landing found on the interior of the property. It appears that much of the previous logging activity in this stand used this landing area. Both landing areas have remained in a grass state with little regeneration taking place.

Multiple signs of wildlife are present throughout the stand. Game trails are found throughout the regeneration/ understory and the old skid trails. Soft mast from the high bush and low bush blueberry add a great wildlife benefit as well as the hard mast from the beech and oak trees. Large snag trees and coarse woody debris from previous harvesting operations are an added wildlife benefit. Signs of white tailed deer, black bear, coyote, and turkey were observed in this stand.

Recommendations:

The desired future condition of this stand is a healthy oak/ hardwood stand with increased vigor. Emphasis will be placed on promoting the timber quality of this stand while trying to increase the health, aesthetics, and wildlife benefits. At this current time a commercial thinning is not recommended. The stand stocking level is less than the desired optimal stocking for sustainable growth. Additional harvesting of this stand may compromise the current growing stock. A commercial thinning could lead to epicormic growth on crop trees such as red oak, depreciating their overall value as timber. Opening up the stand more could result in wind throw or loss of regeneration due to weather events such as snow and ice storms. The current stand consists of well spaced dominant crop trees with desirable crown spacing to allow for growth. It has been approximately 10 years since a harvest has taken place in this stand. The stand has responded to the last harvest and the stand should be monitored periodically to assess the rate of growth. This should be done every 10 years. In another 10 years, portions of this stand may be ready for a commercial harvest.

Access for this stand can be obtained from the existing landing area off of the Class VI portion of Mile Slip Road as well as any other entry points off of the Class VI section of Mile Slip Road. A woods road leading from this landing area leads to the landing on the interior part of the stand as mentioned before. With little work, this road and landing could be used for future harvesting.

Stand 6 –White Pine/ Oak, 36.24 Acres

Standing Volumes:

Species	Average BA/acre (sq. ft./ac.)	Volume per acre (bd. ft./ac.)	Total Volume (bd. ft.)
White Pine	10	1234.5	44,442
Chestnut Oak	8	676.1	24,340
Red Oak	4	323.5	11,646
Black Birch	2	151.2	5,443
Red Maple	2	131.9	4,748
Sugar Maple	2	131.7	4,741
Sawtimber Total	28	2,649	95,360
		Cords/ac.	Total Cords
Softwood Pulp	18	3.0 cds	108 cds
Cordwood	22	3.4 cds	122 cds
Cord/Pulp Total	40		
All Products	68		

This stand is located in the southwestern corner of the property found east of Mile Slip Road. The stand is composed of scattered white pine, ranging from poor to good quality. The quality of the pine appears to be poorer around the height of the terrain surrounding the summit of Badger Hill ~782'. In the overstory, the white pine ranges in size from 10-14 inches in diameter at breast height with scattered pockets of trees ranging in size from 16-24 inches at dbh, primarily of poorer quality. Other associated species found in the overstory include scattered chestnut oak, red oak, black birch, red maple, and sugar maple ranging in size from 10-14 inches at dbh with some scattered 16+ inches at dbh.

Similar to Stand 2 and Stand 5, the majority of this stand has seen extensive harvesting since the 1990s, the majority of the larger diameter trees have been cut, typically seen with a diameter limit cut. The original overstory has essentially been removed allowing for the original understory to become the new dominant strata layer in the residual stand, changing the stand structure by removing an age class of trees. Regeneration established directly following the extensive harvesting has become the new understory. Management previous to the 1990s had created the desirable uneven-aged stand structure, which led to the successful stand structure that is visible today. Extensive skid trail layout in multiple layout patterns, varying stump age, and varying understory support evidence that this stand was harvested multiple times within a shorter than desired time frame for long term sustainable management.

The regeneration/ understory has responded from the past harvesting well and is made up of large sapling sized black birch, red maple, mixed oak, hemlock, and white pine found throughout the stand. The past harvesting has created small areas of concentrated

advanced regeneration including hemlock and/or black birch up to 4 inches at dbh. Witch hazel and mountain laurel are also present in this stand at varying densities, competing with the regeneration.

Multiple signs of wildlife are present throughout the stand. Game trails are found throughout the regeneration/ understory and the old skid trails. Soft mast from the high bush and low bush blueberry add a great wildlife benefit as well as the hard mast from the oak trees. Large snag trees and coarse woody debris from previous harvesting operation are an added wildlife benefit. Signs of white tailed deer, black bear, coyote, and turkey were observed in this stand. An old “hitch” of wood was found in this stand from a previous harvest. This pile of tree length wood was missed by the skidder operator and in return has created a shelter for wildlife over the past years.

The topography in this stand becomes steep, primarily sloping to the south west. In the southern part of the stand, the terrain is very steep with sections of small cliffs. These steep areas appear to have not been harvested with the rest of the property and will remain that way in to the future. The stand is moderately well drained due to the soils and slopes present. Small pockets of wet soils can be found in the small valleys created by the rolling terrain in the southern part of the stand. These wet areas appear to remain wet year round. Previous harvesting has avoided many of these lower laying areas.

A series of trails are present in this stand with some of them being established on the older existing skid trails; such as the Summit Trail, the 501 Snowmobile Corridor, and other multi-use trails are some to note. It should be noted that at the time of the field work, new trails were in the process of being constructed. Other small paths were also observed in the central and southern portions of the stand. Stonewalls are absent from this stand but can be found along the southwestern most edge of the property, the boundary line.

Recommendations:

The desired future condition of this stand is a healthy white pine/oak stand with increased vigor. Emphasis will be placed on promoting the timber quality of this stand while trying to increase the health, aesthetics, and wildlife benefits. At this current time a commercial thinning is not recommended. The stand stocking level is less than the desired optimal stocking for sustainable growth. Additional harvesting of this stand may compromise the current growing stock. A commercial thinning could lead to epicormic growth on crop trees such as red oak, depreciating their overall value as timber. Opening up the stand more could result in wind throw or loss of regeneration to weather events such as snow and ice storms. The current stand consists of well spaced dominant crop trees with desirable crown spacing to allow for growth. It has been approximately 10 years since a harvest has taken place in this stand. The stand has responded to the last harvest and the stand should be monitored periodically to assess the rate of growth. This should be done every 10 years. In another 10 years, portions of this stand may be ready for a commercial harvest.

Access for this stand can be obtained from the old landing area off of the Class VI section of Mile Slip Road as well as any other entry points off of the Class VI section of Mile Slip Road.

Management Schedule

2014

- Prepare the forest management plan.
- Blaze and paint identifiable boundary lines. etc.).

2014-23

- Conduct a timber harvest in harvestable areas (Stand 1)
- Create wildlife habitat when applicable (mow fields/ create early successional habitat).
- Monitor the woodlot for wind damage, ice damage, fire, or disease and take appropriate corrective actions as needed to ensure the continued health of this forest block.
- Assist the Town of Milford--Conservation Commission with additional stewardship opportunities with the Mile Slip Town Forest.
- Re-assess the woodlot in 10 years (2024) and write a new 10-year management plan, specifically looking at TSI potential and harvest potential during the next 10 year management period.
- (Recommended Item) Make this property available for Project Learning Tree excursions for the local schools.
- Continue to enhance the recreational opportunities throughout the property.
- Maintain the trail system throughout the property.

Concluding Remarks

The recommendations proposed in this 10-year management plan should be implemented within the next 10 years, although timing will depend on landowner priorities, market conditions, and environmental conditions such as pest outbreaks and weather. Through sound silvicultural practices and using best management practices (BMP's), mature, diseased, and defective trees will be harvested to allow residual trees to grow in their place. This forest should be monitored for pest outbreaks and destructive weather events; corrective action should be taken as needed over the next 10 years in response to any such events. These recommendations are silviculturally and operationally sound and should result in meeting the landowner objectives for the woodlot. Implementing these recommendations will help ensure that this forestland is being managed with long-term sustainability in mind.

Respectfully Submitted,

Eric V. Radlof

Glossary of Forestry Terms

Basal Area (BA) - Cross sectional area of a tree stem at a height of 4.5 feet (diameter at breast height) expressed in square feet per acre.

Browse - The twigs and leaves of woody plants, that are edible to wildlife.

Butt - The base of a tree; the lower end of a log.

Canopy - The upper layer of branches and foliage, or tree crowns, in a forest.

Crop Tree - A tree identified to be grown to maturity and not removed from the forest before the final harvest cut. Usually selected on the basis of its quality and location with respect to other trees.

Cull - A tree or log of merchantable size but with little or no market value.

Diameter at Breast Height (DBH) - The diameter of a tree as measured at breast height which is taken at 4.5 feet from the ground surface.

Dominant - Trees with crowns able to receive full sunlight from above and partially from the side.

Form - The shape of a tree or log.

Habitat - The local environment in which a plant or animal lives.

Harvesting - In general use, removing all or portions of trees on an area.

Mast - Acorns or other fruits or nuts edible to wildlife.

Maturity - For a given species or stand, the approximate age beyond which growth falls off or decay begins to increase at a rate likely to reduce economic importance.

Merchantable - pertains to a log or tree with qualities that would permit an economically profitable harvest

Mean Stand Diameter - The mean diameter of all trees within a stand or compartment.

Merchantable Mean Stand Diameter - The mean diameter of all trees considered as sawlog stocking within a compartment or stand.

Pole - A tree whose diameter at DBH ranges from 5.1 through 11 inches.

Pulpwood - Roundwood converted into specific lengths or chips for commercial use as in paper making or as a fuel.

Regeneration - New forest growth by artificial reproduction, by means of seeding or planting; or natural reproduction, from natural seeding or sprouting.

Sapling - A small tree, usually defined as being between 2 and 4 inches at DBH.

Sawtimber - Trees that will yield logs suitable in size and quality for the production of lumber; generally having a minimum diameter at DBH of 11.1 inches.

Sawlog - That part of a tree which has economic value as sawed lumber.

Site - An area evaluated as to its capacity to produce a particular forest or other vegetation based on the combination of biological, climatic, and soil factors present.

Site Index - A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and co-dominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Silviculture - The science of producing and caring for a forest by applying the principals of forest management within a sound economic framework.

Snag - A standing dead tree; a portion of tree remaining standing.

Stand - A grouping of trees occupying a site and sufficiently uniform in composition, age, and condition so as to be distinguishable from the forest on adjoining areas.

Stand Density - An expression referring to the total stocking of a stand of trees, usually expressed in square feet of basal per area.

Stocking - The degree of occupancy of trees on land, by measurement and/or the number of trees in a stand.

Thinning - The reduction in density of stocking by harvesting trees to prevent overcrowding and stagnation of a stand of trees.

Appendix A.

SOILS INFORMATION

Hillsborough County Soils Profiles

- CmC** – Canton stony fine sandy loam, 8-15% slopes
 Suitability for growing wetland plants for wildlife habitat – Very poor.
 Suitability for growing coniferous and hardwood trees – Good.
 Suitability for area as habitat for wetland wildlife – Very poor.
 Suitability for area as habitat for woodland wildlife – Good.
 Suitability for area as habitat for openland wildlife – Poor.
 Has only slight erosion hazard and slight wind throw hazard.
 Well-drained, moderate permeability, low productivity as forestland, steep slopes can limit logging.
- CnC** – Canton very stony fine sandy loam, 8 to 15% slopes
 Suitability for growing wetland plants for wildlife habitat – Very Poor.
 Suitability for growing coniferous and hardwood trees – Good.
 Suitability for area as habitat for wetland wildlife – Very poor.
 Suitability for area as habitat for woodland wildlife – Fair.
 Suitability for area as habitat for open land wildlife – Poor.
 The soil is poorly suited to most tree species, and productivity is low. The stones and boulders limit logging operations.
- CmD** –Canton stony fine sandy loam complex, 15-25% slopes
 Suitability for growing wetland plants for wildlife habitat – Very Poor.
 Suitability for growing coniferous and hardwood trees – Good.
 Suitability for area as habitat for wetland wildlife – Very poor.
 Suitability for area as habitat for woodland wildlife – Good.
 Suitability for area as habitat for openland wildlife – Poor.
 Well-drained, moderate permeability, and the complex is poorly suited to most tree species. Steep slopes can limit logging.
- CpC** –Chatfield-Hollis-Canton complex, 8 to 15% slopes
 Suitability for growing wetland plants for wildlife habitat – Very Poor.
 Suitability for growing coniferous and hardwood trees – Good.
 Suitability for area as habitat for wetland wildlife – Very poor.
 Suitability for area as habitat for woodland wildlife – Fair.
 Suitability for area as habitat for openland wildlife – Very Poor.
 Well-drained, moderate permeability, and the complex is suited to most tree species. Slope and areas of exposed rock may limit the use of equipment.
- CtD** –Chatfield-Hollis-Rock outcrop complex, 15-35% slopes
 Suitability for growing wetland plants for wildlife habitat – Very Poor.
 Suitability for growing coniferous and hardwood trees – Fair.
 Suitability for area as habitat for wetland wildlife – Very poor.
 Suitability for area as habitat for woodland wildlife – Fair.
 Suitability for area as habitat for openland wildlife – Very Poor.
 Well-drained, high permeability, and the complex is poorly suited to most tree species. Slope and areas of exposed rock limit the use of equipment.
- LvA** – Leicester-Walpole complex stony, 0 to 3% slopes
 Suitability for growing wetland plants for wildlife habitat – Good.
 Suitability for growing coniferous and hardwood trees – Fair.
 Suitability for area as habitat for wetland wildlife – Good.
 Suitability for area as habitat for woodland wildlife – Fair.
 Suitability for area as habitat for openland wildlife – Poor.
 The soils are suited to a variety of trees, mostly water tolerant species such as red maple. Productivity is moderate. The high water table limits some forest management practices and logging operations.

Soils Map

Town of Milford- Mile Slip Town Forest
 +/-452.25 ac

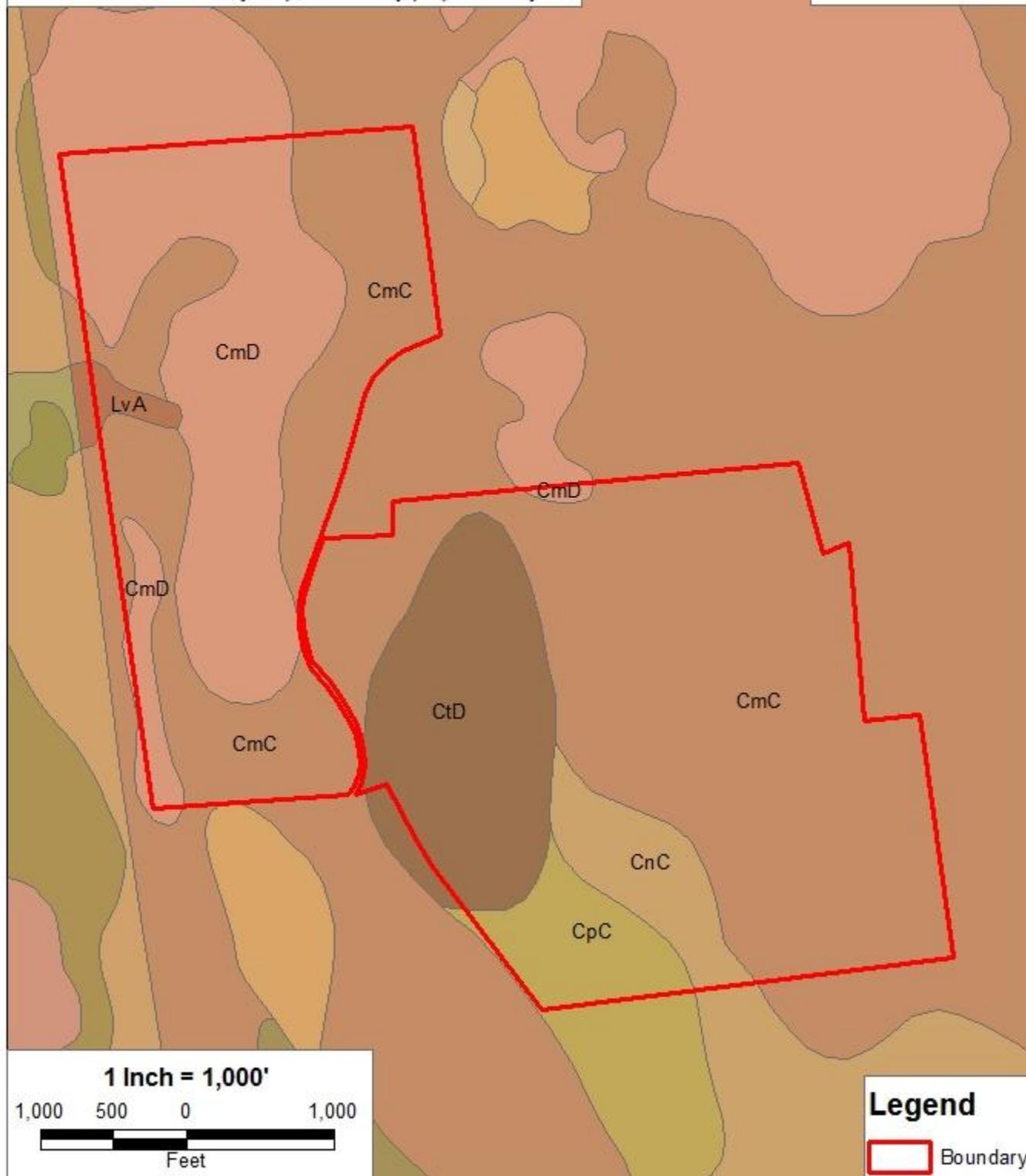
Mile Slip Road, Milford, NH

Map created by Eric Radlof
 of Bay State Forestry Service.



Data Source: Tax Maps, GPS Points, KEA Inc 2004 Survey,
 and 2010 NH GRANIT GIS Aerial, Topo, and Soils Map.

NOT intended as a survey map, for forestry purposes only.



Appendix B.

WILDLIFE ACTION PLAN HABITAT INFORMATION

Source of information:

New Hampshire Fish and Game. (2011). New Hampshire Wildlife Action Plan. Retrieved February 28, 2014, from http://www.wildlife.state.nh.us/Wildlife/wildlife_plan.htm.

Of the 19 Habitat Types identified by the Wildlife Action Plan, the following were identified at the Mile Slip Town Forest, Mile Slip Road, Milford, NH.

Grassland

Grasslands are comprised of grasses, sedges, and wildflowers with little to no shrubs and trees. The most common grassland habitats are airports, capped landfills, wet meadows, and agricultural fields such as hayfields, pastures and fallow fields. Pre-colonial grasslands in New Hampshire were probably only maintained by beaver and fires started by lightning and Native Americans. The numerous agricultural lands maintained by early European settlers provided ideal habitat for some wildlife species that need grassland habitat. As these agricultural lands were abandoned, these populations began to decline and are now on the state endangered list such as the eastern hognose snake, northern harrier, upland sandpiper and on the state threatened list such as the grasshopper sparrow. Other species also benefit from these open grass fields such as wood turtles and numerous species of butterflies. Development and natural forest succession have reduced grassland habitat in the state. Grasslands require maintenance and must be mowed to prevent them from becoming shrublands or forests. Only 8% of NH grasslands are currently under conservation easements. Reclaiming and maintaining grasslands are two important conservation strategies for grassland habitats. Many grassland and potential grassland habitat are on private land and landowners can help restore and conserve them.

Marsh and Shrub Wetlands

Emergent marsh and shrub swamp systems have a broad range of flood regimes, sometimes controlled by the presence or departure of beavers, but mostly controlled by groundwater. This system, which is an important food source for many species, is often grouped into three broad habitat categories: wet meadows, emergent marshes, and scrub-shrub wetlands. Marsh and shrub wetlands filter pollutants, preventing them from getting into local streams, and help hold water to reduce flooding. Many wildlife species use marsh and shrub wetlands including common species like red-winged blackbirds, beavers, and painted turtles. Marsh and shrub wetlands are also critically important for state endangered Blanding's turtles, New England cottontails, northern harriers, ringed boghaunters, and sedge wrens plus state threatened spotted turtles and pied billed grebes. Development is a threat to these habitats mostly from driveways and roads that fragment wetlands or change the flow of water. The loss of an upland habitat around a marsh or shrub wetland also increases the amount of pollution and sedimentation threatening the habitat. Another constant threat to marsh and shrub wetlands is invasive plants such as purple loosestrife and Japanese knotweed that compete with native vegetation. Some conservation strategies for marsh and shrub wetlands are restoration and protection of these important habitats. Many marsh and shrub wetlands are on private land and landowners can help restore and conserve them. [Click here to download the Marsh and Shrub Wetlands Habitat Stewardship Series.](#)

Appalachian Oak-Pine Forests

Appalachian oak-pine forests are found mostly below 900 feet elevation in southern New Hampshire and along the Connecticut River in western New Hampshire. The nutrient-poor, dry, sandy soils and warm, dry, climate influences the typical vegetation including oak, hickory, mountain laurel, and sugar maple. Many wildlife species use these forests for part or all of their life cycle including whip-poor-wills, black bears, northern myotis, and state endangered eastern hognose snakes. Traditionally, Appalachian oak-pine forests are influenced by frequent fires, which change the age structure of the forest. The diverse age and structure of the forest help to promote wildlife diversity. Intense development pressure particularly in the southeast corner of New Hampshire has dramatically reduced naturally occurring fires and increased fragmentation of this forest type. Incorporating habitat conservation into local land use planning, protecting unfragmented blocks, and adopting sustainable forestry are a few examples of conservation strategies for Appalachian oak-pine forests.

Hemlock-Hardwood-Pine Forests

Hemlock-hardwood-pine forests are comprised of mostly hemlock, white pine, beech, and oak trees. Since this is a transitional forest, it can occur at different elevations and over different types of soil and topography, so the composition of vegetation can be variable. This forest type is the most common in New Hampshire and covers nearly 50% of the state and provides habitat for numerous wildlife species such as the cerulean warbler, eastern pipistrelle, and bobcat. Many of the species that use this habitat type require large blocks of unfragmented forest such as the northern goshawk and black bear. Since this forest type is so common, it is sometimes overlooked in conservation efforts. Development and fragmentation is a huge threat to the continued existence of hemlock-hardwood-pine forest. Some conservation strategies for hemlock-hardwood-pine forests are incorporating habitat conservation into local land use planning, protecting unfragmented blocks of land, and educating landowners.

WAP Habitat Map

Town of Milford- Mile Slip Town Forest
+/-452.25 ac

Mile Slip Road, Milford, NH
Map created by Eric Radlof
of Bay State Forestry Service.

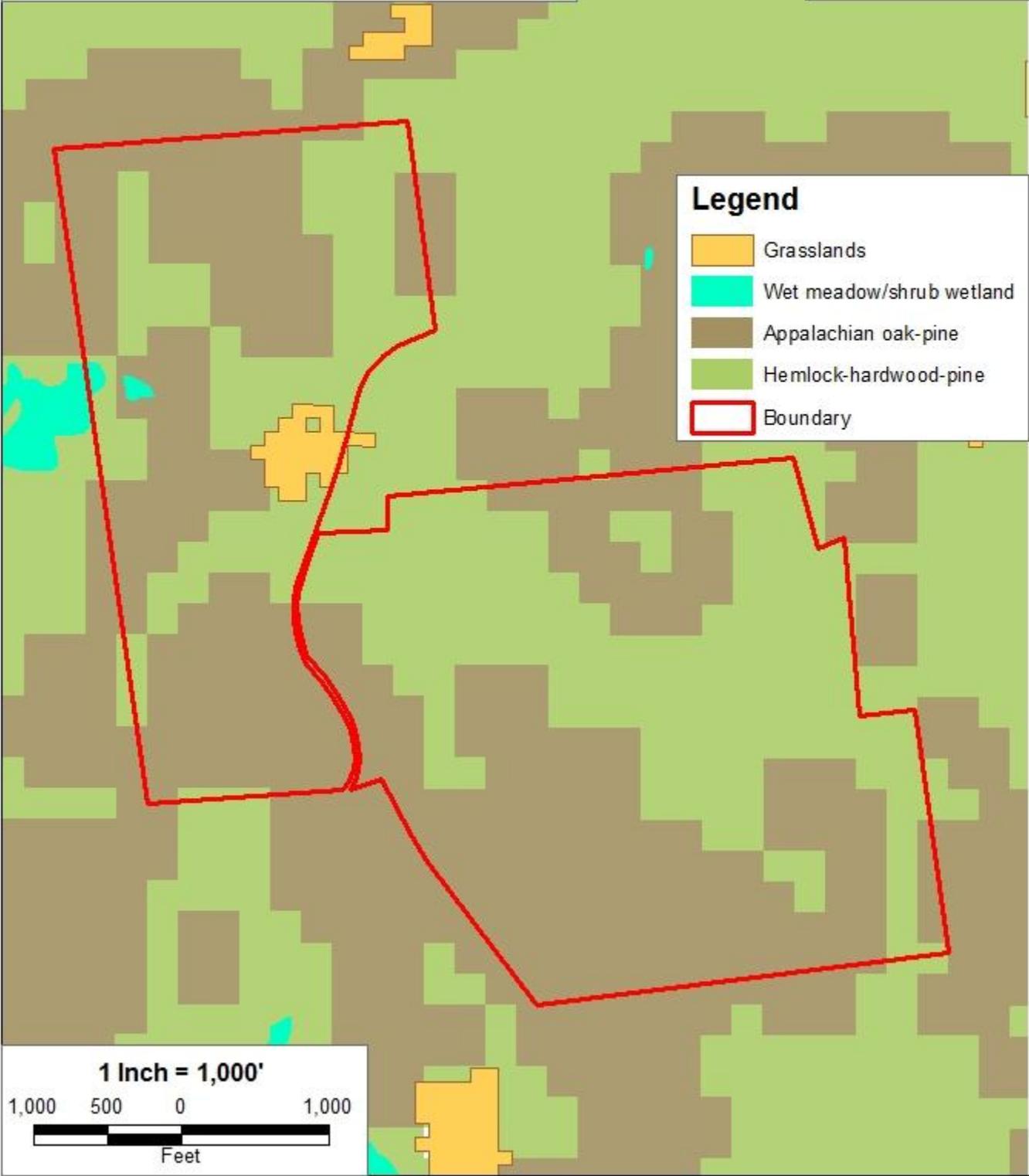


Data Source: Tax Maps, GPS Points, KEA Inc 2004 Survey,
and 2010 NH GRANIT GIS Aerial, Topo. and WAP Maps.
NOT intended as a survey map, for forestry purposes only.



Legend

-  Grasslands
-  Wet meadow/shrub wetland
-  Appalachian oak-pine
-  Hemlock-hardwood-pine
-  Boundary



1 Inch = 1,000'

